

TI-36196: Improving NiSi Metal Gate Stacks Using a Sacrificial Cap

Thermal Stability  
(B-Doped Poly)

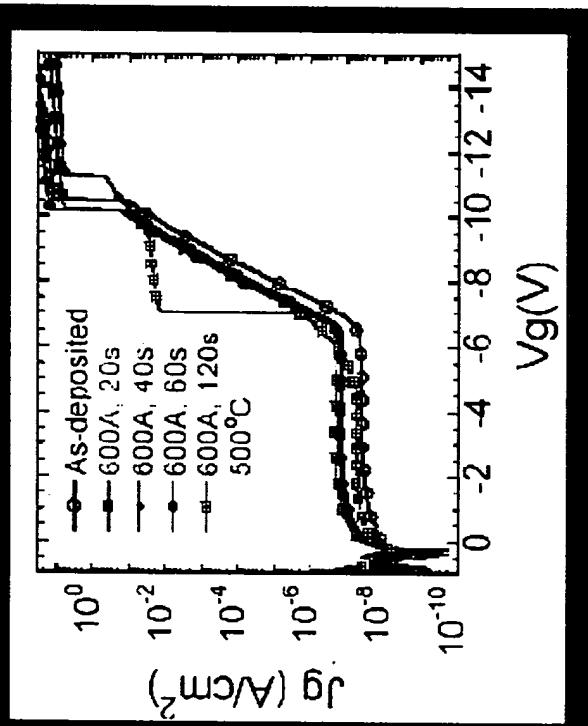


Fig. 1

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# Impact of TiN cap on B-doped NiSi gate

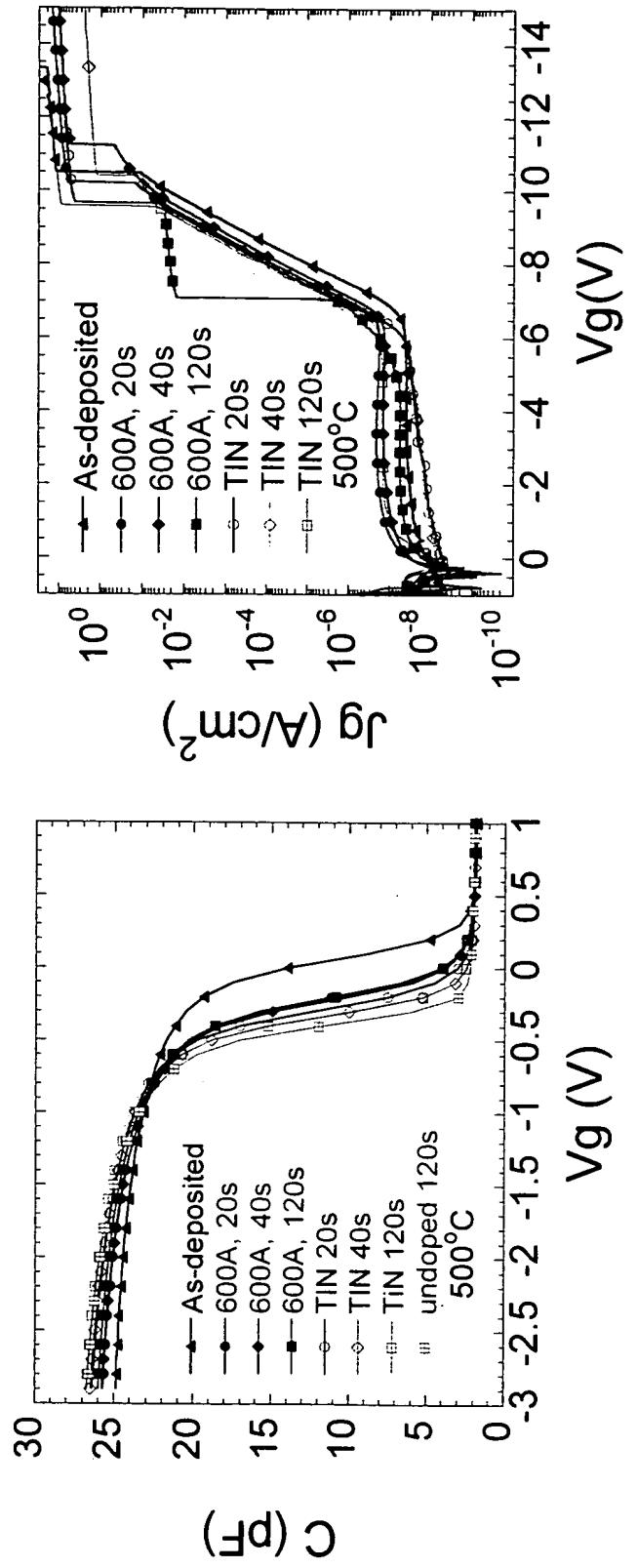


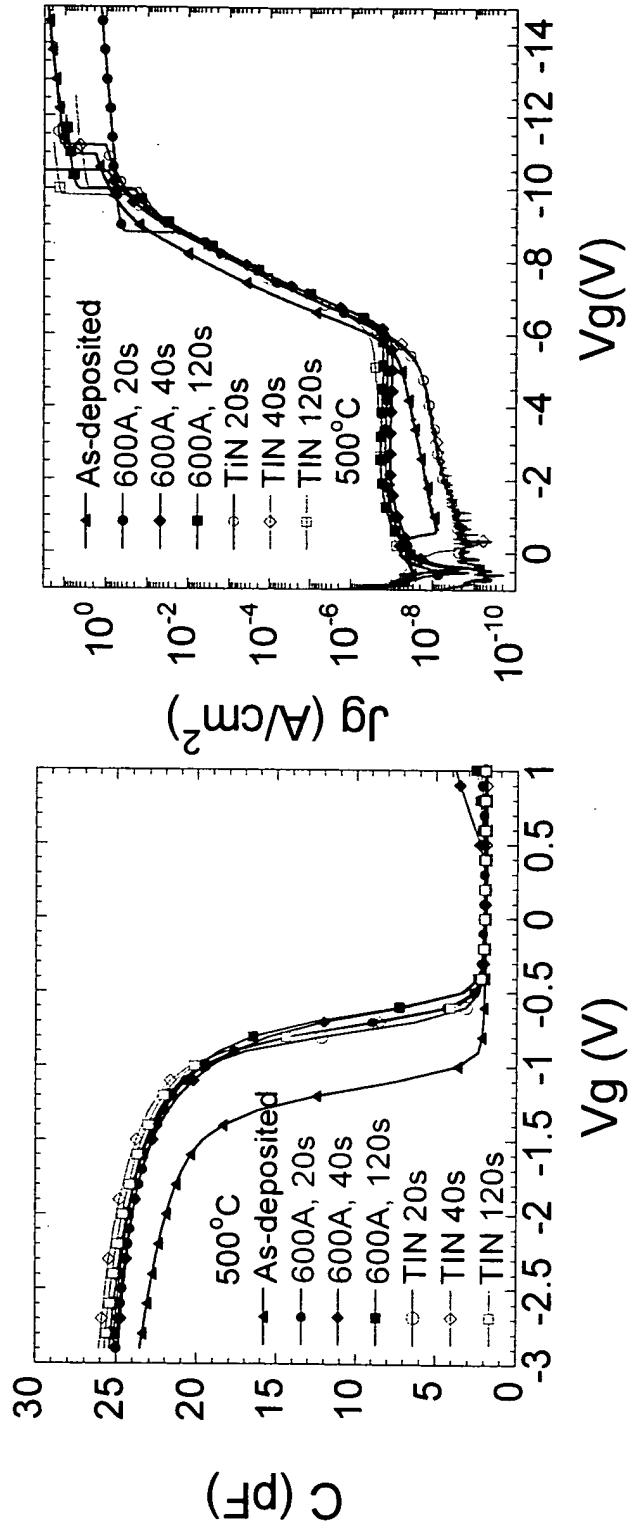
Fig. 2A

Fig. 2B

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# Impact of TiN cap on As-doped NiSi gate



**FIG. 3A**

**FIG. 3B**

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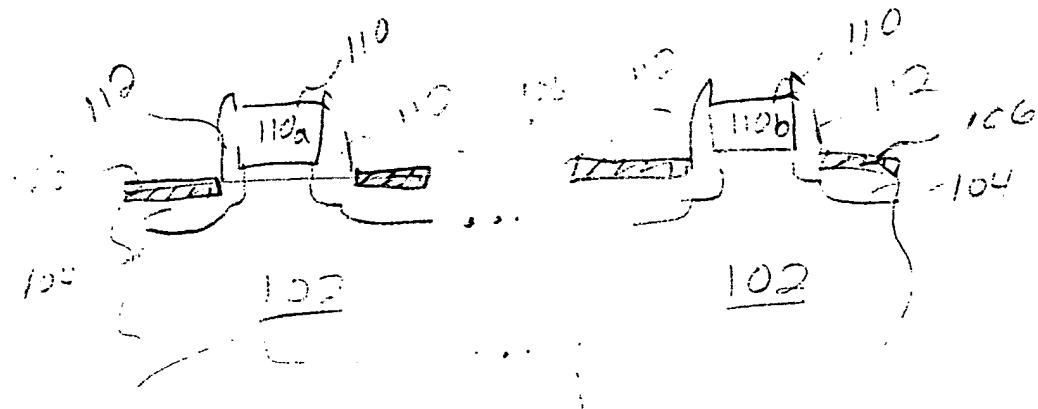


FIG. 4A

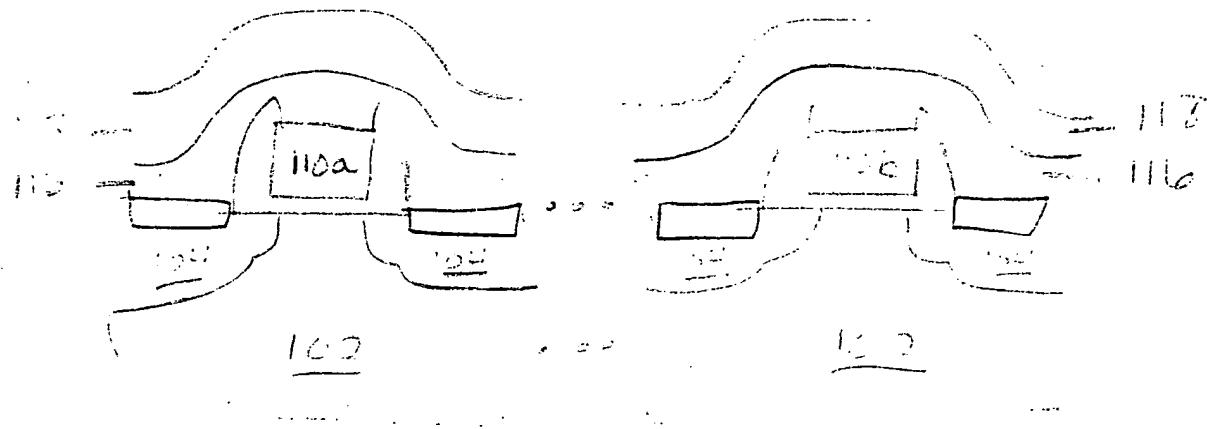


FIG. 4B

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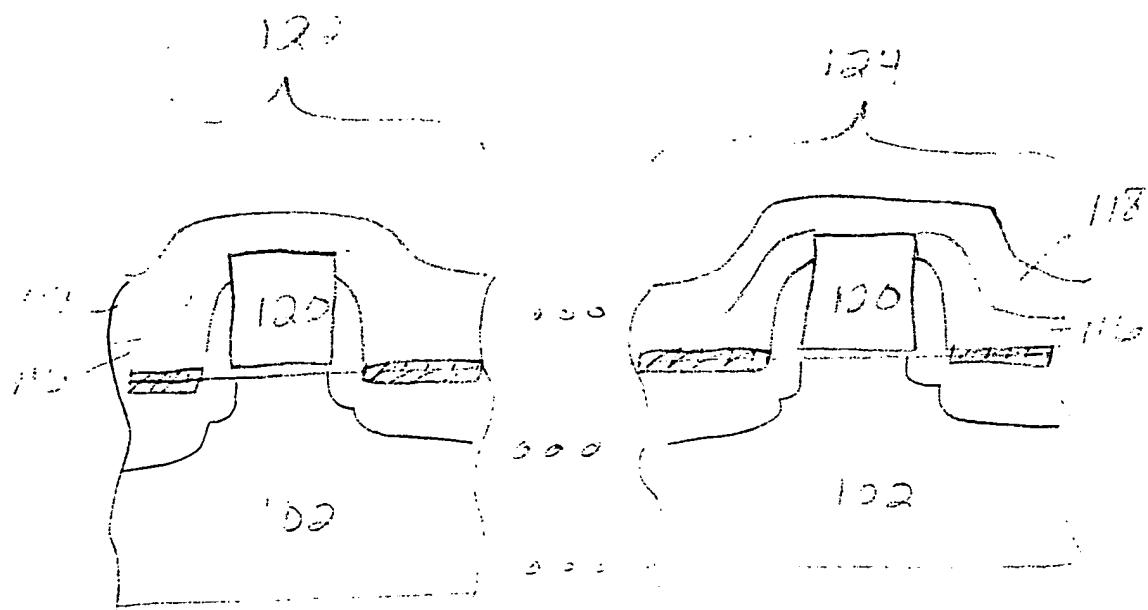


FIG. 4C

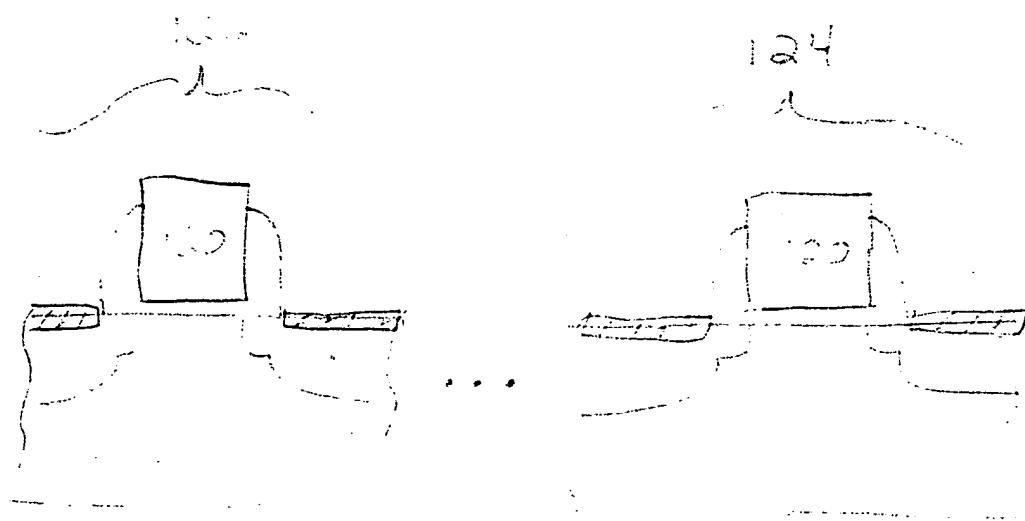


FIG. 4D

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## Impact of TiN cap on B distribution

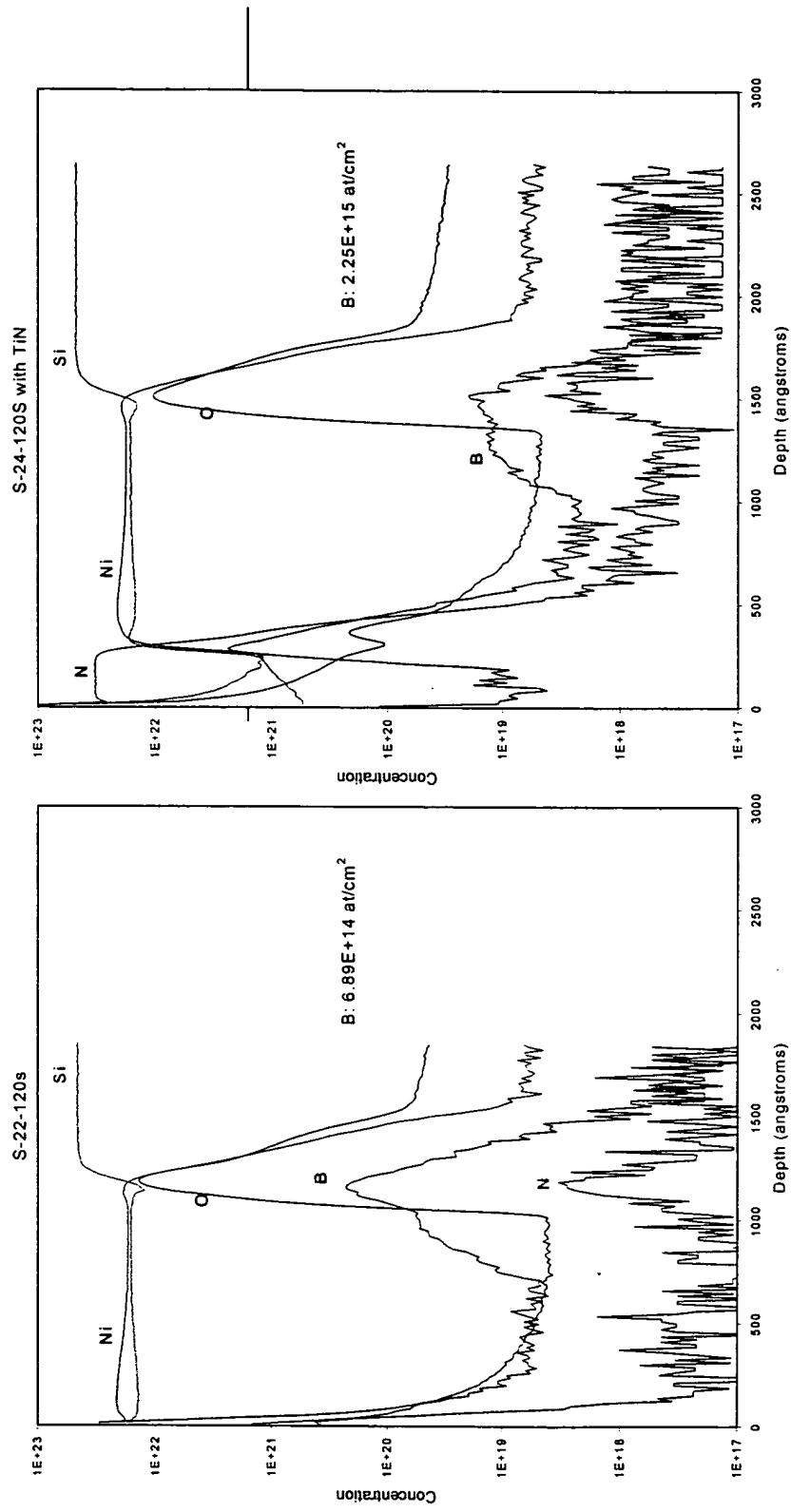


FIG 5A - No TiN cap

FIG. 5B With TiN cap

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## Impact of TiN cap on As distribution

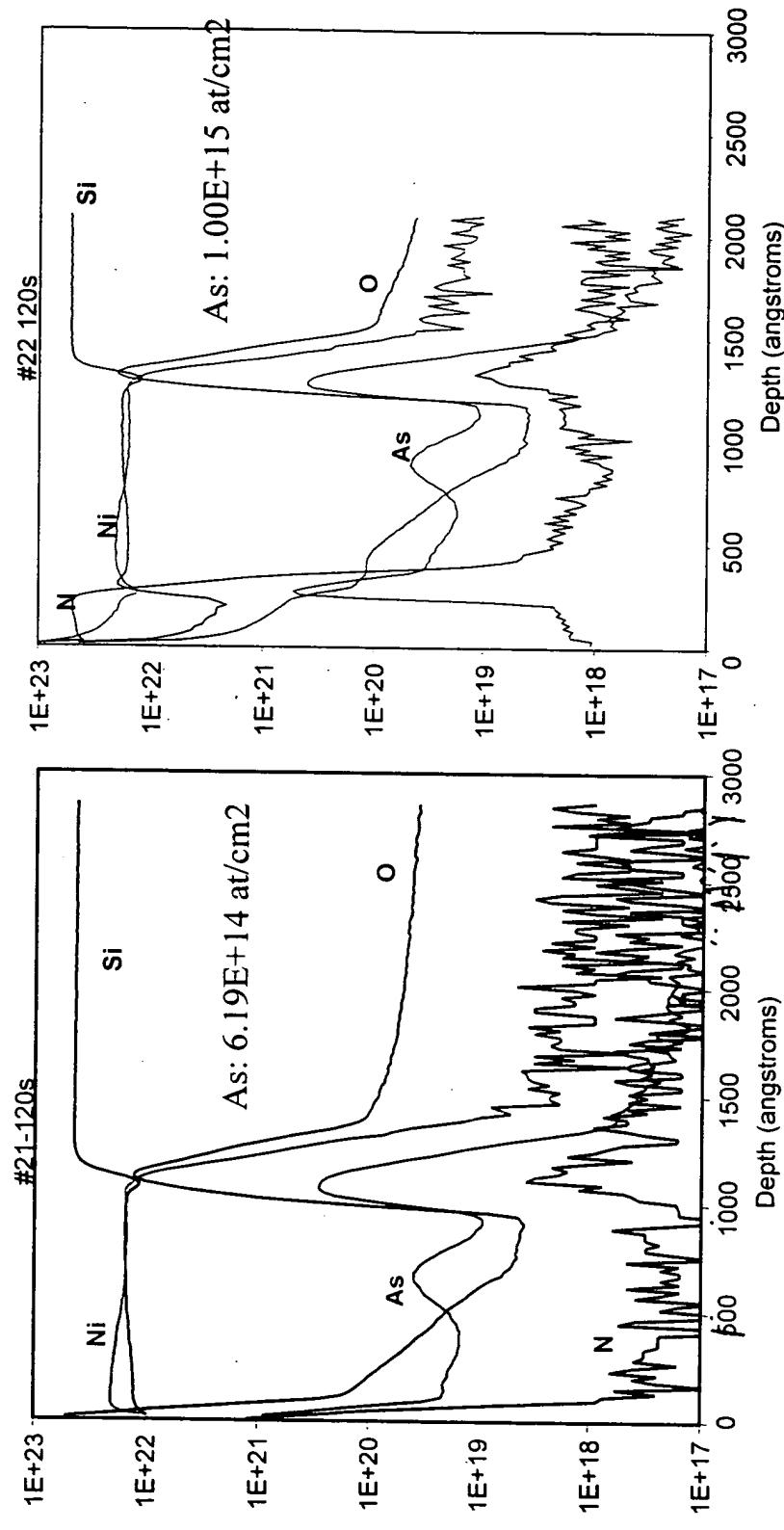


FIG. 6A No TiN cap

FIG. 6B With TiN cap